

BALD EAGLE WINTER HABITAT
ON
BLM LANDS IN CALIFORNIA

by

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ABSTRACT

In the winter of 1978-79 all known Bald Eagle winter habitats on BLM lands in California were described. Wintering Bald Eagles are found in all BLM Districts in the State. The Redding District supports the largest number. Planning documents in all Districts were reviewed, and their coverage of Bald Eagle wintering habitats was evaluated.

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INTRODUCTION

The Bald Eagle (Haliaeetus leucocephalus) is known as an uncommon winter visitor in California (Small 1974). Although the State's remaining breeding population of less than 50 pairs is confined to the northern counties, the species may be found in larger numbers statewide during the winter months. These wintering Bald Eagles have been the object of increasing interest by management agencies.

Previous studies have identified a few key wintering locations. The largest of these is in the vicinity of the Lower Klamath/Tule Lake National Wildlife Refuge complex in Siskiyou County, where annually over 400 Bald Eagles have been counted in recent years by interagency groups. A total of 104 Bald Eagles were found wintering in Shasta, Trinity, and Tehama Counties in early 1978 (Detrich 1978). Coffey (1977) reported on a wintering concentration of over 20 Bald Eagles on the San Bernardino National Forest.

During the fall of 1978 the National Wildlife Federation's Raptor Information Center planned and encouraged a nationwide mid-winter survey of Bald Eagles. The California State Office of the BLM then created a temporary position to achieve two main objectives: 1) to provide a statewide coordinator for the mid-winter survey, and 2) to define Bald Eagle winter habitat on BLM lands in California.

OBJECTIVES

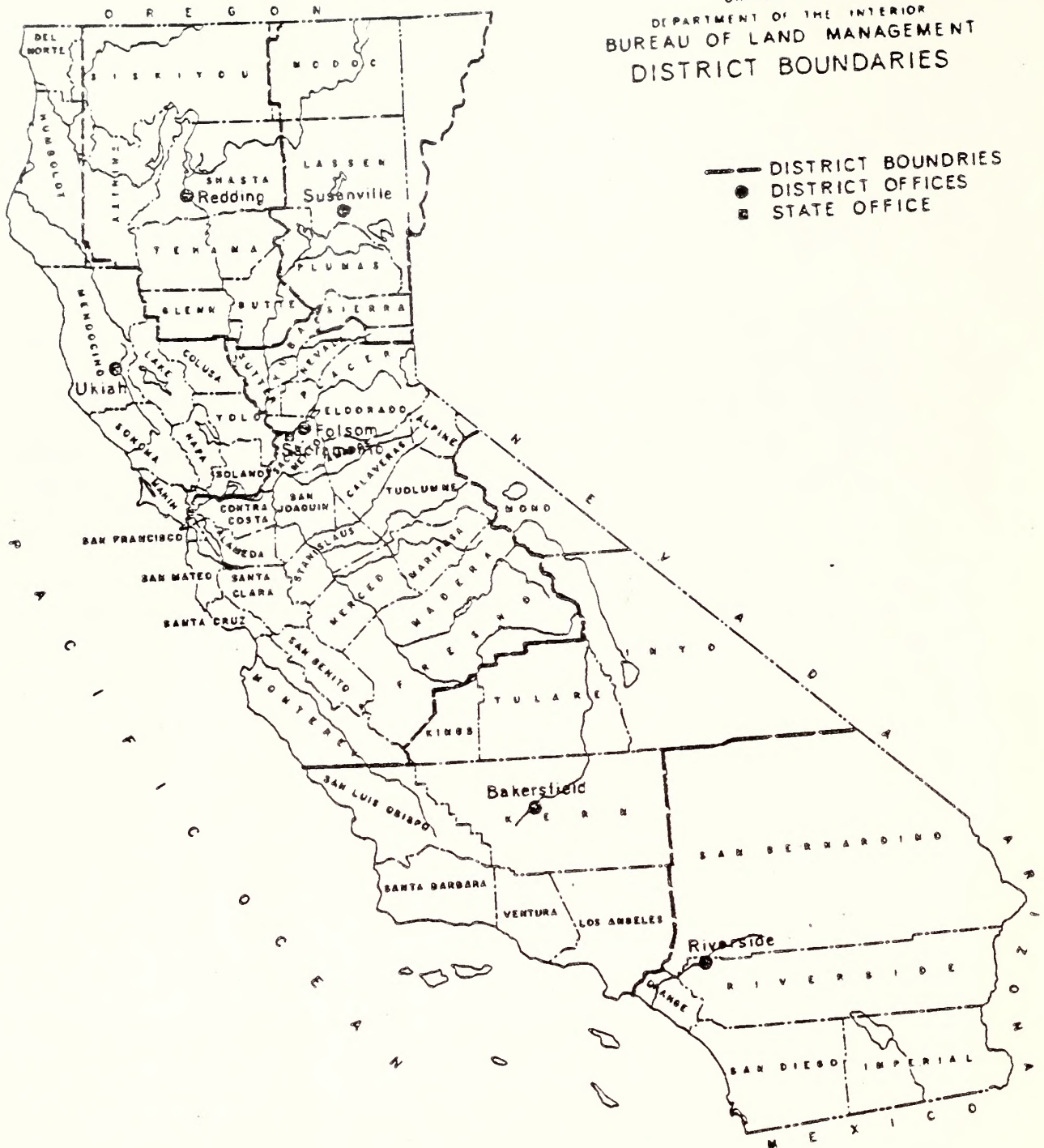
The major goals of this study were as follows:

1. To locate Bald Eagle winter habitat on or near BLM lands by contacting local biologists, reviewing the results of the statewide mid-winter Bald Eagle survey, and directly searching for the birds;
2. To identify and describe Bald Eagle habitat areas so that managers may be aware of the presence of the species and the importance of the habitat.

METHODS

This study took place between December 14, 1978, and April 6, 1979. Information on Bald Eagle use areas was gathered from biologists, rangers, and wardens from many agencies, including the U.S. Bureau of

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
DISTRICT BOUNDARIES



Land Management (BLM), U.S. Forest Service (USFS), U.S. Fish and Wildlife Service (FWS), U.S. Bureau of Reclamation (USBR), U.S. Army Corps of Engineers (USACE), National Park Service (NPS), California Department of Fish and Game (CDFG), California Department of Parks and Recreation (CDPR), Pacific Gas and Electric Company (PG&E), and local chapters of the National Audubon Society. The results of the statewide mid-winter Bald Eagle survey conducted January 19-20, 1979, were also examined for relevance to BLM lands.

Eight weeks of field work were conducted in portions of the Redding, Susanville, Ukiah, Folsom, and Bakersfield Districts. Seven fixed-wing aircraft flights totalling 32 hours were made in search of Bald Eagles and their habitat. In addition, two days were spent studying the species by boat.

All Bald Eagle sightings were recorded in field notes. The ownership pattern of habitat areas was mapped and all sightings related to BLM holdings were summarized for this report.

District Unit Resource Analyses (URAs) and Management Framework Plans (MFPs) were reviewed, and suggestions were made for their update as they relate to wintering Bald Eagles.

MANAGEMENT OF WINTERING BALD EAGLES

Because of time constraints, it was not within the scope of this report to make extensive management recommendations. Additional field time is required in most cases to identify problems and gain an understanding of habitat use by this species.

For an overview of the subject, land managers are referred to Management of Wintering Bald Eagles by Karen Steenhoff, U.S. Fish and Wildlife Service, September 1978. Specific management problems on BLM lands should be discussed with the State Office Endangered Species Coordinator.

In many cases, Bald Eagles are widely dispersed in the various resource areas and might occasionally be seen flying over virtually any piece of BLM land in California. However, enough is known of specific use areas that these can be defined in Unit Resource Analyses. Sufficient data are not presently available to warrant proposal of these specific use areas as Critical Habitat. Nevertheless, repeated and predictable use of certain areas by wintering Bald Eagles does warrant inclusion in the planning process.

There are numerous places on public lands in California where known, suspected, or potential winter habitat for Bald Eagles has been withdrawn for power or reclamation project sites. The BLM retains management of

surface resources on these lands (about 12,000 acres) until the project is begun. This includes management of endangered species and other wildlife. Because most power site and reclamation withdrawals are near water, and because Bald Eagles prefer habitat near water, the development of these lands could adversely affect Bald Eagle distribution in California.

BALD EAGLE HABITAT ON BLM DISTRICTS

REDDING DISTRICT

The Redding District is by far the most important BLM district in the state for wintering Bald Eagles. Of the 855 Bald Eagles counted on the statewide mid-winter survey, about 60 percent were within the overall boundaries of the Redding District. Almost 50 percent of the statewide total was in the Lower Klamath/Tule Lake National Wildlife Refuge where BLM lands provide an important roost site. Other Redding BLM lands on the Sacramento River and Lake Oroville are important habitat for smaller numbers of eagles.

The primary Bald Eagle use areas on or near BLM lands in the Redding District are discussed below.

Mt. Dome (Siskiyou County)

Mt. Dome is the most important Bald Eagle winter habitat under BLM administration in California. Biologists from BLM's Redding District have conducted several surveys of eagle use in the area in the past few years.

Mt. Dome's importance is as a winter roost area, it is one of a complex of known roosts surrounding Lower Klamath/Tule Lake National Wildlife Refuge. In combination, these roosts supported up to 560 Bald Eagles at the time of the mid-winter survey on January 19, 1979. The number of eagles in these roosts fluctuates through the winter. Mt. Dome appears to support from 10 to 40 percent of this population at any given time. The largest number of eagles recorded at Mt. Dome was 168 on February 20, 1979 (J. Mattison, BLM, pers. comm.).

BLM biologists are currently considering management provisions for the area. These will probably include seasonal road closures. The current disturbance level in the area is believed to be low. The USFS, Modoc National Forest, also owns lands in the area. Interagency cooperation in planning is imperative.

Iron Gate and Copco Reservoirs (Siskiyou County)

These reservoirs (Iron Gate: 1000 acres; Copco: 1000 acres) on the Klamath River near the Oregon border were missed on the January 19, 1979, mid-winter survey. On January 31 - February 2 field work (including a survey flight) determined that a minimum of 12 Bald Eagles (3 adults, 9 immatures) were using the area. In February, 1975, there were 28 eagles reported on Copco Reservoir (R. Payton, CDFG, pers. comm.).

My observations on January 31 and March 1 indicated that a night roost was being used in the canyon of Jenny Creek, a tributary to Iron Gate Reservoir. In subsequent field work biologists from the Redding District located the roost site on BLM land below the forks of Jenny Creek (T48N, R5W, Sec. 24, W $\frac{1}{2}$). Twelve Bald Eagles left this roost at dawn on March 2, 1979 (J. Thomason, BLM, pers. comm.).

BLM lands in the area are somewhat limited. Aside from the Jenny Creek parcel the bulk of public lands on Iron Gate are power site withdrawals. One of these in particular seemed to be an important perching area. This is in T48N, R5W, Sec. 34, SE $\frac{1}{4}$.

Of the several BLM holdings near Copco Reservoir none abut the shoreline. Use of these lands by the species is largely undetermined. In early March, 1979, a report was received of possible roosting activity near Lennox Rock (T48N, R4W, Sec. 34) (J. Mattison, BLM, pers. comm.).

Scott Valley (Siskiyou County)

Bald Eagles are regular winter visitors in small numbers in the Scott Valley. On February 2, 1979, a BLM survey flight down the 30-mile course of the Scott River Valley found one adult Bald Eagle perched near the Scott River adjacent to the mouth of Etna Creek. In past years two Bald Eagles have wintered near Callahan at the upper (south) end of the valley (R. Payton, CDFG, pers. comm.). In March, 1979, there were unconfirmed reports of Bald Eagle activity at the north end of the valley near Rattlesnake and Indian Creeks.

BLM lands in the valley itself are in scattered small parcels. Use by the Bald Eagle is undetermined.

Trinity River (Trinity County)

Between the USFS boundary at Lewiston Lake and the USFS boundary near Junction City, the Trinity River flows through a number of BLM parcels. This stretch of river receives regular winter use by a small number of Bald Eagles (Detrich 1978).

The most regularly used area observed during this study was just below the mouth of Tom Lang Gulch in the S $\frac{1}{2}$ of Sec. 27, T33N, R9W. Here an adult Bald Eagle was regularly seen in a Douglas fir snag overlooking the river. This location is just across the river from the spot where an immature Bald Eagle was found dead of a shotgun wound on December 6, 1978 (T. Burton, CDFG, pers. comm.).

The drastic decline of the salmon run in the Trinity River has probably decreased forage availability for Bald Eagles (Detrich 1978). There was a slight rise in the number of salmon spawning in the river this year (E. Miller, CDFG, pers. comm.).

Big Lake (Shasta County)

This 700-acre natural lake drains into the Pit River via the Tule and Fall Rivers. A resident pair of Bald Eagles nests and winters in the area. They were seen from a fixed-wing aircraft on the mid-winter survey.

There is a large block of BLM land in the lavas north and west of the lake, and small parcels to the east. The BLM has been active in protecting the existing nest territory in cooperation with the CDFG. In 1977 lands on the west shore were added to the state park system. The BLM should participate in the planning process for this park to ensure consideration of Bald Eagle breeding and wintering habitat values.

Baum Lake (Shasta County)

This small 90-acre reservoir operated by PG&E provides year-round forage habitat for a pair of Bald Eagles which nests one mile east of the lake. BLM lands probably provide perch sites on the rim overlooking the east shore. Further field work is necessary to document the extent of use.

Pit River (Shasta County)

In eastern Shasta County the Pit River has an 18-mile course before entering USFS lands near Lake Britton. The river is primarily on private lands in this stretch, but BLM has a number of holdings near the river below Fall River Mills. A resident pair of Bald Eagles nesting near Fall River Mills, use the Pit River as a year-round forage base. Land management activities in the area should take into account possible impacts on this forage resource.

Bear Creek (Shasta County)

On January 19, 1979, I observed an adult Bald Eagle perched in a digger pine at the junction of the North and South Forks of Bear Creek. This

location is on or very near a vacant BLM parcel in T31N, R1W, Section 14, SW $\frac{1}{4}$. The sighting was made during a fixed-wing aircraft Bald Eagle survey flight.

There are several small BLM parcels on Bear Creek above the Highway 44 Bridge. Bald Eagle foraging and perching use may occasionally occur on these areas.

The primary forage source in this area would probably be fish. Any activities on the above mentioned parcels or elsewhere in the Bear Creek drainage which could affect fish populations or perch trees should be examined for potential effects on wintering Bald Eagles.

Battle Creek (Shasta/Tehama Counties)

Bald Eagles occur regularly during fall and winter on Battle Creek between Darrah Springs State Hatchery and the confluence of the creek with the Sacramento River. Survey flights recorded two Bald Eagles on Battle Creek on March 1, 1978 (Detrich 1978), four on December 22, 1978, and three on January 19, 1979.

None of the above sightings occurred on BLM lands; however, perching or foraging use may occasionally occur on BLM lands. Along Battle Creek there are four BLM parcels on which future activities could affect Bald Eagles. These are as follows:

1. T30N, R1W, Sec. 30, SW $\frac{1}{4}$ SW $\frac{1}{4}$. This is a power site withdrawal which is less than $\frac{1}{2}$ mile upstream from a known Bald Eagle perching area in T30N, R2W, Sec. 25, SE $\frac{1}{4}$.
2. T30N, R2W, Sec. 34, S $\frac{1}{2}$ and S $\frac{1}{2}$ NW $\frac{1}{4}$. This is a power site withdrawal which is also about $\frac{1}{2}$ mile upstream from a known perching area in Sec. 33, NE $\frac{1}{4}$.
3. T30N, R2W, Sec. 28, S $\frac{1}{2}$ SE $\frac{1}{4}$. This is a power site withdrawal on the north rim of the canyon. The site overlooks the perching site in Sec. 33, NE $\frac{1}{4}$.
4. T29N, R2W, Sec. 6, S $\frac{1}{2}$. This is a vacant parcel which includes part of the south rim of the valley of Battle Creek just upstream from Coleman National Hatchery. Bald Eagles have been observed perched along the creek in the N $\frac{1}{2}$ of this section.

Any activities on the above-mentioned parcels which could affect fish populations or possible perching sites should be evaluated for effects on wintering Bald Eagles.

Sacramento River (Shasta and Tehama Counties)

Bald Eagles have been regularly recorded during the winter months on the Sacramento River from Redding downstream to at least Woodson Bridge near Corning. This author documented several use areas in the winter of 1977/1978 (Detrich 1978). Survey efforts by ground vehicle and aircraft in the winter of 1978/1979 have added to the knowledge of use areas on the river. The species appears to be especially attracted to the reach from Cow, Cottonwood, and Battle Creeks to Red Bluff, and from Red Bluff to Woodson Bridge. The birds are usually seen perched in riparian timber or feeding on the edge of gravel bars.

The discussions of Jelly's Ferry, Inks Creek, and Todd Island which follow concern BLM-administered habitat on the Sacramento River.

Jelly's Ferry Recreation Area (Tehama County)

(T29N, R3W, Sec. 34, a portion of the SW $\frac{1}{4}$ comprising 65 acres, including about $\frac{3}{8}$ mile of river frontage.) On December 21, 1978, I observed an adult Bald Eagle perched in a white oak near the river in the Jelly's Ferry Recreation Area. This bird was observed for about 20 minutes before it crossed the river where it was joined by another adult Bald Eagle. Later, after both birds had left the area, the perch tree was examined. The worn, shiny bark on the perch limb indicated that it is used with some regularity.

Bald Eagles using this location may occasionally be disturbed by recreationists; however, there are a number of disturbance-free locations nearby. Vehicular traffic was recently limited in the area. Bank fishing and picnicking are the primary uses.

Inks Creek Area (Tehama County)

The heaviest Bald Eagle use observed on the Sacramento River was in a four-mile stretch just below the Jelly's Ferry Bridge. This reach is in T29N, R3W, Sec. 34, 35, and 36; and T28N, R3W, Sec. 1. The mouth of the Inks Creek is near the center of this stretch in Section 36.

On December 22, 1978, four adult and seven immature Bald Eagles were counted along the river in this area. On January 19, 1979, two adults were found in the same stretch. It is my opinion that the area receives its heaviest use in late fall and early winter when a large number of salmon carcasses are available for food.

There are currently no BLM holdings adjoining the river in this stretch. However, personnel in the Redding District are proposing acquisition of Sec. 36 and 1 as an extension of the Payne's Creek Recreation Area, which lies immediately to the south. Such an acquisition could have very

positive effects in the maintenance of winter habitat for Bald Eagles on the Sacramento River.

Todd Island (Tehama County)

Todd Island, 220 acres on the Sacramento River six miles below the Red Bluff Diversion Dam, is administered by the BLM. Use by Bald Eagles was documented in the winter of 1977-78 (Detrich 1978). BLM survey flights on December 22, 1978, and January 19, 1979, each found a single Bald Eagle in the immediate area. On both dates this bird was perched in privately owned riparian timber on Moody Island across the river from the BLM parcel.

Because of the rapid loss of riparian habitat in the Sacramento Valley (Cal. DWR 1975), Todd Island's habitat becomes increasingly important. The district presently plans to leave the island in its natural state. This is consistent with the needs of Bald Eagles.

Mill Creek (Tehama County)

The use of Mill Creek Canyon as a night roost was documented in February, 1978, when 15 Bald Eagles were seen leaving the canyon (Detrich 1978). Earlier in that month, six had been seen roosting in a digger pine near a power site withdrawal parcel in the canyon (T25N, R1W, Sec. 26).

On December 22, 1978, a BLM survey flight located three Bald Eagles perched near this same location. The immediate area seems to have an attraction for the species. Additional field work is needed to determine the extent of use at this location. It appears that this may be a roost site of some importance to birds foraging in the Sacramento Valley.

Paynes Creek (Tehama County)

BLM's Paynes Creek Recreation Area borders the Sacramento River at Perry Riffle on the north and Paynes Creek on the south. Two Bald Eagles were reported on the river near Perry Riffle December 21, 1978 (W. George, CDFG, pers. comm.), and individuals were observed in the area on BLM survey flights December 22, 1978, and January 19, 1979.

The canyon of Paynes Creek is suspected to be an intermittently used night roost. I saw a Bald Eagle fly into the protected timber of the canyon late on the afternoon of December 21, 1978. A BLM employee reported flushing four Bald Eagles from this timber on the afternoon of January 17, 1979 (H. Matzat, BLM, pers. comm.). On the evening of January 23, 1979, there were no eagles observed in the canyon, but two were roosting in digger pines about $\frac{1}{2}$ mile above the creek's confluence with the Sacramento River.

The suspected roost area on BLM land is in T28N, R1W, Sec. 14, E $\frac{1}{2}$, and Sec. 13, NW $\frac{1}{4}$.

There are several potential disturbance factors in this area. Although off-road vehicle use is prohibited, trail bikes do use the Paynes Creek Area. Increased observation and enforcement are needed. A small road which leads into the mouth of Paynes Creek canyon is closed by a locked gate but is probably accessible to trail bikes. In addition, an attempt should be made to relocate an informal firing range which is presently in use in the NW $\frac{1}{4}$ of Sec. 14. There is a low ridge between the eagle use area and the firing range, but the direction of fire is directly toward the eagle use area.

It is recommended that further research into Bald Eagle use of this area be undertaken. Since it is within a few miles of the heaviest Bald Eagle use area on the Sacramento River, and since public land in the area is limited, the Payne's Creek parcel offers great potential for preservation of Bald Eagle winter habitat.

Stony Gorge Reservoir (Glenn County)

The mid-winter Bald Eagle survey January 19, 1979, revealed one Bald Eagle on this Bureau of Reclamation reservoir of 1200 acres. A survey flight conducted on February 14, 1979, also showed one adult present.

BLM land is limited to two parcels near the north end of the lake, a Bureau of Reclamation withdrawal on the west shore, and holdings along the ridge $1\frac{1}{2}$ miles west. Use of these areas by the species is undetermined.

In addition, there are several vacant parcels along Stony Creek between Stony Gorge Reservoir and East Park Reservoir (Colusa County, Ukiah District). These lands may receive use by wintering Bald Eagles at times. Use by the species should be considered in management activities.

Lake Oroville (Butte County)

A 15,500-acre California Water Project reservoir, this lake is recognized as high-use winter habitat for Bald Eagles. Thirty-four were seen on each of two USFS flights in early December, 1977, and late January, 1978 (T. Newman, USFS, pers. comm.). Eight were found on a BLM survey flight conducted on December 22, 1978. A USFS boat survey team reported 19 on January 19, 1979.

The BLM is responsible for surface management of a good deal of shoreline, particularly on power site withdrawal lands. Many of these sites are situated on points which provide good perching locations for Bald Eagles. Development on these lands should be examined for effects on the species.

The Plumas National Forest, Challenge Ranger District, has conducted regular boat surveys of Lake Oroville throughout the winter of 1978-79. Their report, including maps of sighting locations is being prepared at the time of this writing. Copies of their report will be sent to the Redding BLM District Biologist and the BLM State Office Endangered Species Coordinator (A. Rohrbacher, USFS, pers. comm.).

Review of Planning Documents

Review of URAs and MFPs on the Redding District indicated that while most of these documents mention Bald Eagles in general terms, there is no specific information included on wintering areas.

However, the Redding District is far ahead of California's other BLM districts in terms of inventories and awareness of wintering Bald Eagles. The information gained by this survey and by the District's ongoing inventories of Mt. Dome and other areas now provides a good basic understanding of winter habitat used by the species. Update forms are being added to some URAs. In general, the species is better represented in Redding's planning process than in any other district in the State.

SUSANVILLE DISTRICT

BLM lands on the Susanville District do not contain much Bald Eagle habitat and, consequently, do not support many Bald Eagles. Although the mid-winter survey found a total of 39 in Modoc and Lassen Counties, none of these birds were seen on BLM property.

Wintering Bald Eagles are known to occur regularly on only three areas influenced by management of BLM lands. These areas are discussed below.

Eagle Lake (Lassen County)

Eagle Lake is a natural lake of about 7,200 acres. As the name implies, it is known as historic habitat for Bald Eagles, both nesting and wintering. In January, 1977, 17 Bald Eagles were counted there. On the mid-winter survey January 19, 1979, 11 were found. Only a small portion of the west side of the lake remained open this winter, and the birds appeared to remain in the unfrozen area.

There are extensive BLM holdings on the north and east sides of Eagle Lake. Potential perching and roosting habitat is available in these areas. In early January, 1977, four Bald Eagles were observed in an apparent night roost in T33N, R11E, Sec. 3 and 10 (P. Bloom, BLM, pers. comm.). None were observed in this area during the winter of 1978-79.

This site is part of a proposed timber sale. Consultation with the FWS as per Section 7 of the Endangered Species Act will be necessary.

In the past, Bald Eagle perch sites on BLM land have also been observed east of Highway 139 along the northeast shore. Further field work during an ice-free winter period would be necessary to determine the importance of both of these areas.

Pit River (Modoc and Lassen Counties)

The Pit River flows west and south across the northern portion of the Susanville District. Small numbers of wintering Bald Eagles may be found along the river at scattered locations and times. Sightings are primarily from the Warm Springs Valley between Alturas and Canby, and from Big Valley, centered at Bieber. The mid-winter survey January 19, 1979, revealed only three Bald Eagles in the area, all in Warm Springs Valley.

BLM lands in Warm Springs Valley are far back from the river and do not offer likely Bald Eagle habitat. In Big Valley there are a few parcels nearer the river, but further field work would be necessary to define use by the species.

The canyon country south of Big Valley is largely BLM lands and power site withdrawals. Little is known of Bald Eagle use of this area. The mid-winter survey flight of January 19, 1979, found none in the area. The rough water in the area is not characteristic of Bald Eagle use areas.

Honey Lake (Lassen County)

This is a largely intermittent alkali lake of about 14,600 acres. Five Bald Eagles were found in the area on the mid-winter survey of January 19, 1979. Audubon Christmas Bird Counts reported 20 Bald Eagles for the area in 1971 and 9 to 11 in each year from 1972 through 1976.

Most sightings occur in two specific areas: the state waterfowl areas on the north shore and the Long Valley Creek area southeast of the lake (S. Hawks, BLM, pers. comm.).

BLM lands in the Honey Lake area do not attract many Bald Eagles. Most of the small amount of shoreline controlled by the agency is far from the waterfowl use area and is too alkaline for perch trees. The mountainous holdings to the north and northeast are practically treeless, and thus offer little in the way of roost potential. The highly alkaline soil and water would pose severe restrictions on any habitat modifications.

Review of Planning Documents

As is the case in all other California BLM districts, Susanville's URAs and MFPs are not up to date regarding wintering Bald Eagles. The information in this report should be used as a basis for updating these documents. Further research and planning is particularly recommended at Eagle Lake (Willow Creek Planning Unit) where continued residential and recreational development is putting pressure on both nesting and wintering habitat. Also, the comprehensive plan being prepared by consultants for Lassen County should be carefully considered in regard to Bald Eagle habitat and the Endangered Species Act.

UKIAH DISTRICT

Wintering Bald Eagles are found in several habitat types within the Ukiah District: regulated streams, unregulated streams, and reservoirs. Those areas under BLM influence are discussed below.

At Lake Berryessa the USBR and FWS recorded Bald Eagle sightings throughout the winter. Elsewhere on the District, occasional sightings were reported by BLM, USFS, and CDFG personnel. A survey flight was made by BLM and CDFG biologists for the mid-winter Bald Eagle survey January 19, 1979. I also made a survey flight over eastern portions of the District on February 14.

Known Bald Eagle winter habitat on the Ukiah District include the following.

Lake Berryessa (Napa County)

At least nine Bald Eagles (2 adults, 7 immature) wintered on Lake Berryessa this year. Most BLM land in the area is on higher ground above the lake, but there are some BLM holdings along the lake in the Putah Creek arm. This is suspected to be Bald Eagle foraging habitat (R. Brockman, pers. comm.).

Berryessa has a surface area of approximately 18,000 acres and is administered by the USBR. In March, 1979, BLM was asked by Reclamation to participate in planning for wildlife habitat improvements, including possible upgrading of perching areas for Bald Eagles.

Cache Creek (Lake and Yolo Counties)

Bald Eagle winter use on Cache Creek below Clear Lake was first recorded by BLM biologists in early March, 1978. At that time a BLM group rafting

the creek reported 24 eagles between Cache Creek. Apparently, this large group of birds had been of carp which had been stranded by an extreme flood of the creek (F. Krieger, pers. comm.).

In the winter of 1978-79 the only known searches of Cache Creek were the flights on January 19 and February 14. Two eagles were seen on the first flight; two were observed on the second.

There are extensive BLM holdings along this 20-mile stretch of Cache Creek. Management activities in the area have been affecting Bald Eagle winter habitat. There is a concern being given to increased recreational access to the area. Any proposal of this nature must be evaluated for potential disturbance of wintering Bald Eagles.

Indian Valley Reservoir (Lake County)

One adult Bald Eagle was seen by the author on February 14. This lake was first filled in 1960 and has a good fishery and also attracts large numbers of waterfowl. There are numerous perch snags available. Thus, the lake provides the elements of excellent winter habitat.

Indian Valley Reservoir is completely encompassed by BLM management activities planned for the area should be of use by Bald Eagles. More field work is needed to determine use by the species and to locate favored habitats.

East Park Reservoir (Colusa County)

Observations on two dates indicated that East Park Reservoir is attractive to wintering Bald Eagles. On January 14, 1979, I found two adults and six immatures on the lake. On a survey flight on February 14, I saw two adults. On the latter date all of the eagles were seen near the shore which were quite numerous. The lake also supports a good fishery.

The BLM land in this area is nearly all at least 100 feet on both slopes of the drainage. Most management activities on BLM lands should have minimal effects on wintering Bald Eagles. The presence of the species does need to be considered in planning.

Eel River and Tributaries (Mendocino and Humboldt Counties)

Wintering Bald Eagles occur in the Eel River system on a widely scattered basis. Sightings in the winter are scattered throughout the system.

pattern. The most birds reported was five at Swale Creek in Humboldt County about January 15. BLM URAs on the District report that the main branch of the Eel, the South and Middle Forks, and several of their tributaries are important use areas for the species.

Based on observations of Bald Eagles on other streams in Northern California (Detrich 1978) and elsewhere in the Pacific Northwest (Servheen in Steenhoff 1978), the availability of salmon carcasses in the Eel River is probably a major attraction.

BLM lands along the Eel River are widely scattered, with very few parcels contiguous to the river. The effects of land management activities on the species are likely to be indirect. Of prime concern is maintenance of stream quality and a healthy anadromous fishery. On those parcels along the river, retention of riparian timber and perch snags should be a priority.

King Range/Mattole River (Humboldt County)

A few Bald Eagles are regularly reported from the Mattole River during the winter months, particularly near the mouth of the river. One such sighting was reported in early February, 1979. On February 21, 1979, the District Biologist reported two immatures between Woods and Bear Trap Creeks about 15 miles upstream from the coast. These scattered sightings are probably connected with the availability of anadromous fish.

The King Range holdings constitute the bulk of BLM lands in the Mattole River drainage. Only small scattered parcels exist elsewhere in the drainage. Maintenance of stream quality and the fishery are probably the most important factors in the potential for use of this area by Bald Eagles.

I have received no reports of Bald Eagles within the King Range Conservation Area. The presence of anadromous fish in the coastal streams of the King Range may attract Bald Eagles at times. However, very little field work has been conducted in the area.

Review of Planning Documents

In February, 1979, I reviewed URAs and MFPs on the Ukiah District with respect to wintering Bald Eagles. It was found that several of these documents are in need of update.

The East Lake URA and MFP are particularly in need of updating. No mention is made of Bald Eagles in either. However, wintering Bald Eagles are known to occur on Cache Creek, Indian Valley Reservoir, and East Park Reservoir in this unit. The URA also contains the statement that

the Osprey is the only raptor species to benefit from reservoir construction!

The Putah Creek URA mentions only that Bald Eagles are sometimes seen at Lake Berryessa. District personnel have indicated that this URA will soon be updated. The extensive observation data now available from USBR should be utilized.

The East Mendocino URA lists portions of the main and Middle Forks of the Eel River and Elk Creek as important wintering habitat for Bald Eagles. However, the only objective relating to raptors in the MFP pertains to nesting areas. Preservation of winter habitat for Bald Eagles should be a stated objective.

The King Range URA does mention wintering eagles on the Mattole River, and mentions the need for further definition of Bald Eagle use of the area.

The MFP for the King Range goes on to state: "The Bureau's number one wildlife priority goal is to gain information on and manage habitat for rare and endangered species...it is paramount that intensive inventories be conducted to ascertain their presence or absence." This document was approved December 7, 1973. Now, over five years later, these "paramount" inventories have not yet taken place.

FOLSOM DISTRICT

Wintering Bald Eagles are found on several habitat areas in the Folsom District, mostly near foothill reservoirs. These habitat areas are detailed below.

New Don Pedro Reservoir (Tuolumne County)

This 12,900-acre reservoir is operated by the Turlock and Modesto Irrigation District. It is one of the most important Bald Eagle winter habitats on the Folsom District, known for its good fishery. This forage source appears to be an attraction for the eagles. A significant portion of the shoreline lands are under BLM surface management.

A combined ground and air effort during the mid-winter survey of January 20, 1979, counted a minimum of 23 Bald Eagles on the lake. I followed with two and one-half days of field work on February 6, 7, and 8, including a thorough search of the shoreline with the Tuolumne County Sheriff's Boat Patrol.

Several regularly-used perching locations were documented, along with night roost locations. BLM and withdrawn lands contain a number of these sites, as follows:

- T2S, R14E, Sec. 19. Digger pines on the point in the NW $\frac{1}{4}$ of the section were regularly used by a Bald Eagle, and another was found foraging near the head of Willow Creek Cove in the SE $\frac{1}{4}$.
- T2S, R15E, Sec. 7, S $\frac{1}{2}$. Both adult and immature Bald Eagles were observed on several occasions perched in digger pines in the cove and on the point in this power site withdrawal.
- T1S, R14E, Sec. 25. The cove in the SW $\frac{1}{4}$ provides a foraging perch location on power site withdrawal lands.
- T1S, R14E, Sec. 3. Digger pines on power site withdrawal land on the west side of Woods Creek arm were used by an immature Bald Eagle. When flushed, this bird indicated a desire to return to this apparently desirable location.
- T1S, R15E, Sec. 4 S $\frac{1}{2}$. A grove of large digger pines on the south side of the Tuolumne River arm was the late afternoon perch for an immature Bald Eagle. This area appears to be a potential night roost.
- What may be a particularly important site on private land is in T2S, R14E, Sec. 2, W $\frac{1}{2}$. At dusk on February 8, 1979, three Bald Eagles were seen perched in a sheltered gulch. Further field work is necessary to determine the importance of this area as a night roost.

The above locations are only a few of the many sites utilized by Bald Eagles on Don Pedro Reservoir. Most of the others are on private lands. Virtually the entire shoreline is probably used by the species at some time. As one of the more important Bald Eagle winter habitat areas in the state, Don Pedro Reservoir and the surrounding lands deserve careful consideration in the planning for any land management activity or development.

Lake McClure (Mariposa County)

Lake McClure (Exchequer Reservoir) is a 7,000-acre impoundment operated by the Merced Irrigation District. Despite its proximity to Don Pedro Reservoir, only small numbers of Bald Eagles were found on McClure. A fixed-wing aircraft flight on the mid-winter survey of January 20, 1979, was supplemented by an observation party on the ground, yet only two Bald Eagles were found. Since shoreline habitat is fairly similar on the two lakes, forage must be more limited on Lake McClure.

Power site withdrawal lands make up a major portion of the shoreline particularly on the upper section of the reservoir. One Bald Eagle was

observed perched in a digger pine on withdrawn land in T4S, R15E, Sec. 12, NW $\frac{1}{4}$.

Future field work should determine whether the observed difference in the species' use at Lakes McClure and Don Pedro is typical. If a forage problem exists at McClure, the situation might be improved by management.

Millerton Lake (Fresno and Madera Counties)

This 4,900-acre lake behind Friant Dam, operated by USBR, was reportedly utilized by two immature Bald Eagles at the time of the mid-winter survey January 19, 1979.

BLM-administered lands, particularly reclamation withdrawals, are found along much of the shoreline. Use of these lands by Bald Eagles is presently undefined. BLM employees have seen Bald Eagles in the Squaw Leap area in the past (D. Lehman, BLM, pers. comm.).

Bald Eagles were also reported from Redinger and Kerckhoff Lakes, on USFS land just above Millerton Lake.

New Hogan Reservoir (Calaveras County)

BLM has only minor holdings near this 4,400-acre USACE reservoir. There is a small piece of shoreline in a power site withdrawal. A total of 4 Bald Eagles were observed on the lake during the mid-winter survey. Use of BLM lands in the area is undetermined.

Camanche and Pardee Reservoirs (Amador, Calaveras, San Joaquin Counties)

Camanche Reservoir is a 7,700-acre impoundment operated by East Bay Municipal Utilities District on the Mokelumne River. Just upstream is 2,100-acre Pardee Reservoir, operated by the same utility.

BLM lands in this area are widely scattered in parcels of 80 acres or less. Most are probably not important to the species. The power site withdrawal parcels, however, might provide a small amount of habitat. Further field work would be necessary to determine their importance.

These reservoirs were the site of an important concentration of Bald Eagles at the time of the mid-winter survey on January 20, 1979. A minimum of 29 Bald Eagles were reported at that time (E. Skinner, CDFG, pers. comm.).

Merle Collins Reservoir (Yuba County)

Browns Valley Irrigation District operates this 975-acre reservoir. Three Bald Eagles were using the lake at the time of the mid-winter survey. BLM has only two small parcels totalling 160 acres near this reservoir. Use of these lands by the species is unknown.

Englebright Reservoir (Yuba County)

This 800-acre lake on the Yuba River is operated by the USACE. Eleven Bald Eagles were seen at this reservoir on the mid-winter survey. This is one of the highest densities (birds per surface acre) of any reservoir in the state. Forage sources were not reported.

Bald Eagle use was reported on several power site withdrawal parcels within the project area. In the absence of a cooperative agreement to the contrary, BLM retains responsibility for this habitat. In light of the heavy concentration of eagles at Englebright, further field work should be conducted to determine the importance of these lands to the species more precisely.

San Antonio Reservoir (Monterey County)

This 5,700-acre reservoir is operated by the Monterey County Flood Control and Water Conservation District. It is on the San Antonio River between the military reservations of Hunter-Liggett and Camp Roberts.

Twelve Bald Eagles were seen on the lake and river during the mid-winter survey. The forage attraction for this rather large concentration is unknown. BLM lands in the area are limited to the uplands north of the lake. Use of these lands by Bald Eagles is undetermined.

Review of Planning Documents

None of the URAs or MFPs on the Folsom District are up to date for wintering Bald Eagles. Only two URAs even mention the presence of the species, and these do so in very non-specific terms.

Several URAs and MFPs completed in the early 1970's call for inventory of raptor habitats and endangered species, but these inventories have only begun at this point.

The information in this report regarding winter use areas of Bald Eagles should be incorporated into the planning process and should be used as a foundation for further study.

BAKERSFIELD DISTRICT

In the Bakersfield District wintering Bald Eagles are found regularly on several widely scattered habitat areas. Most of this use occurs on reservoirs which are administered by other agencies, notably the USACE and the Los Angeles Department of Water and Power (LADWP). BLM lands are located near each of these habitat areas, and management activities on the public lands could conceivably affect Bald Eagles.

Observations of the species were recorded primarily on the statewide mid-winter Bald Eagle survey January 19-20, 1979. Other observations were recorded during field work by the author on February 27 - March 1, other sightings were reported by biologists from the BLM and other agencies.

In the winter of 1978-79 Bald Eagle use on the Bakersfield District was recorded at the following locations within the range of BLM influence.

Lake Isabella (Kern County)

This 11,400-acre lake is administered by the USACE. USACE biologists have been observing wintering Bald Eagles for a number of years. The largest number observed in the past was five (T. Farmen, USACE, pers. comm.). On the mid-winter survey January 19, 1979, one adult and three immatures were found. Crippled waterfowl are known to be one source of food.

The BLM holdings in the area are primarily set back from the shoreline. It is possible that roosting occurs in digger pines on these lands, but this has not been documented. Further field work would be necessary to determine whether BLM lands are being utilized by the species.

Lake Kaweah (Tulare County)

This 2,000-acre impoundment is also operated by USACE. Five adults and four immature Bald Eagles were reported here January 19, 1979.

BLM lands are confined to the area along the Kaweah River several miles above the lake. Baldrige (1978 unpubl.) summarized Bald Eagle sightings in the area for several years. Few sightings were recorded that winter from the river above Lake Kaweah.

Santa Margarita Lake (San Luis Obispo County)

This 790-acre lake is administered by USACE. An adult Bald Eagle was observed here during the mid-winter survey of January 20, 1979. There

are BLM holdings on both the north and south shores. Further field work would be necessary to determine use of these lands by the species.

Lopez Lake (San Luis Obispo County)

One adult Bald Eagle was seen on this 4,200-acre lake on the mid-winter survey of January 20, 1979. The lake is administered by San Luis Obispo County. The nearest BLM lands are about three miles up the drainage. Bald Eagle use of these lands is unknown.

Twitchell (Vaquero) Reservoir (San Luis Obispo and Santa Barbara Counties)

No Bald Eagles were observed on this 3,700-acre (full pool) reservoir during the mid-winter survey. But CDFG has received reports of the species on this lake during the winter (J. Ledberg, pers. comm.). The reservoir is administered by the Santa Maria Valley Water Conservation District.

There is a block of BLM land on the Huasna Creek arm. Bald Eagle use of this land is unknown.

Mono Lake (Mono County)

This large natural lake of about 40,000 surface acres provides forage habitat for small numbers of wintering Bald Eagles, especially early in the winter before waterfowl move further south (R. Hubbell, USFS, pers. comm.). Hundreds of thousands of Eared Grebes congregate on the lake during late summer, fall, and spring (Gaines 1977), and it seems likely that this food source is utilized by the eagles.

There are extensive BLM lands in the area, including over one-half of the shoreline. Further field work is needed to define use of the public lands by Bald Eagles.

The continuing drop of the water level due to water diversions by LADWP may at some future time severely affect waterfowl habitat. At that time the Bald Eagle may also be negatively affected by loss of forage.

Lake Crowley (Mono County)

This 5,200-acre reservoir on the Owens River is regarded by local biologists as an important Bald Eagle wintering area (R. Hubbell, USFS, pers. comm.; J. Capodice, BLM, pers. comm.; Gaines 1977) especially before freeze-up occurs. As the lake freezes, eagle use reportedly concentrates at the upper end near the Owens River inflow. Five Bald Eagles were seen here during early 1972. No Bald Eagles were reported from the lake on the mid-winter survey of January 19, 1979, as the lake had frozen.

Lake Crowley is owned by the LADWP. The BLM administers tracts which form an almost solid belt overlooking the eastern shore at a distance of $\frac{1}{2}$ to $\frac{3}{4}$ mile. Further field work is necessary to define possible use of these lands by the species.

Pleasant Valley Reservoir (Mono County)

One adult Bald Eagle was found on this small 100-acre reservoir on the Owens River during the mid-winter survey of January 19, 1979. Owned and operated by LADWP, the lake is closely bordered by withdrawn public lands on which surface management is retained by BLM. Further field work is needed to define the importance of these lands to the species.

Tinemaha Reservoir (Inyo County)

This is another of LADWP's reservoirs on the Owens River, with a surface area of 2,000 acres. I found two immature Bald Eagles in willow snags at the north end of the lake on February 28, 1979.

There are withdrawn public lands within $\frac{1}{2}$ mile of the lake on both the east and west sides. However, most of the Bald Eagle's habitat appears to be on the privately owned LADWP land.

Haiwee Reservoir (Inyo County)

Haiwee is the southernmost of LADWP's Owens Valley reservoirs. In two connected segments, it is about $6\frac{1}{2}$ miles long, with a total surface area of about 1,500 acres. In January and February, 1979, it was apparently the most popular area for Bald Eagles in the Owens Valley. Five immatures were counted on the mid-western survey January 19, and I found four immatures there on March 1.

The lake has better riparian growth of cottonwood and willow than the other Owens Valley reservoirs, and provides a number of good perching spots for eagles. LADWP's exclusion of public use provides a relatively disturbance-free environment.

Parts of the shoreline are on withdrawn public lands, which give the BLM responsibility for maintaining this Bald Eagle habitat.

Bridgeport Reservoir (Mono County)

An impoundment of 3,000 acres at the head of the East Fork of the Walker River, this reservoir is regarded as good winter Bald Eagle habitat by local biologists (M. Anderson, CDFG, pers. comm.; Gaines 1977). Most use by eagles occurs before freeze-up. The mid-winter Bald Eagle survey

of January 19, 1979, which took place after the lake had frozen, found no eagles present.

BLM administers a major portion of the lake's shoreline. Further field work is necessary to determine use of these lands by the species.

Nacimiento Reservoir (San Luis Obispo County)

This 5,300-acre reservoir is operated by the Monterey County Flood Control and Water Conservation District. Although the lake was not covered on the mid-winter survey, it is known as Bald Eagle winter habitat. No counts were made, but the species was present on the reservoir this winter (D. Chiramonte, pers. comm.).

BLM lands near the lake are in scattered small parcels. Their importance to Bald Eagles is unknown at this time.

Resource Area Planning Documents

In early March, 1979, a review of Unit Resource Analyses (URAs) and Management Framework Plans (MFPs) in the Bakersfield District showed that none of these documents were up to date in regard to the presence of wintering Bald Eagles. No mention of the species was found in the URAs for several areas where the bird is known to occur. Those URAs which do include the species make only passing remarks.

The information in this report should be incorporated into the URAs and used as a basis for planning and future research.

RIVERSIDE DISTRICT

Because of time constraints for this study, and because Bald Eagle use of habitat areas near BLM lands is relatively minor in the Riverside District, this area was not included in detailed investigations this winter. Bald Eagles do winter within the boundaries of the District. The most important areas are undergoing study by the U.S. Forest Service, in particular by the Big Bear Ranger District, San Bernardino National Forest; and by a San Diego State student, Tom Scott, on the Cleveland National Forest.

The mid-winter survey reported 35 Bald Eagles in San Bernardino County (all on USFS lands), and 15 in San Diego County. A few immature Bald Eagles are usually found wintering near the Salton Sea National Wildlife Refuge.

Land managers should be aware that the species may be present around water bodies during the winter and should take this use into consideration in the planning process.

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